Remarks

This Amendment is being submitted in reply to the Office Action dated January 21, 2003. Claims 1-22 are pending in the application, and claims 1-22 have been rejected.

The Examiner has rejected claims 1, 5-6, and 8-10 under 35 U.S.C. 102(b) as being anticipated by Nelli et al., U.S. Patent 3,772,193. In the present Amendment, claims 1 and 6 have been canceled and claims 2 and 7 have been placed in independent form. Claim 5 now depends upon claim 2 and claims 8-10 now depend upon claim 7. Because claims 2 and 7 were not rejected as being anticipated by Nelli et al., claims 5 and 8-10 should not be rejected as being anticipated by Nelli et al. since they depend upon claims that have not been so rejected.

The Examiner has rejected claim 4 under 35 U.S.C. 103(a) as being unpatentable over Nelli et al. and cited column 5, lines 8-15. Applicants respectfully submit that column 5, lines 8-15 discloses that regulation of the flow of the liquid is achieved with a control valve and does not specify the dispensing rate per hour. Claim 4 is directed toward the dispensing rate of cyanuric acid contained within the permeable bag and the feeder. It is the combination of the type of product (cyanuric acid), the permeable bag, and the feeder that determines the dispensing rate of approximately 0.20 to 1.40 pounds of product per hour, not just a control valve. Claim 4 does not depend upon claim 3, which specifies the rate at which cyanuric acid is dispensed from the feeder outlet. Therefore, the dispensing rate of the cyanuric acid, the permeable bag, and the feeder do not only depend upon the rate at which cyanuric acid is dispensed from the feeder outlet and do not only depend upon the use of a control valve. Further, Nelli et al. neither teaches nor suggests the use of cyanuric acid, which is discussed in more detail below. Nelli et al., in particular Column 5, lines 8-15, does not render claim 4 obvious.

Rate is NOT Obvious

The Examiner has rejected claims 2-3, 7, and 11-22 under 35 U.S.C. 103(a) as being unpatentable over Nelli et al. in view of Watson, U.S. Patent 4,181,702. Generally, Watson discloses an apparatus for the controlled chlorination of water with an alkali metal

dichloroisocyanurate, which readily dissolves in water to form a solution of hypochlorous acid and the salt of cyanuric acid. The alkali metal dichloroisocyanurate is used primarily to chlorinate (sanitize) the water in a swimming pool. Thus, the hypochlorous acid is the primary reason for using the compound and the cyanuric acid is simply a byproduct of the compound. When the hypochlorous acid is depleted in the pool, the cyanuric acid byproduct remains even though more of the compound must be dispensed to effectively sanitize the swimming pool.

As suggested in column 3, lines 47-51 of Watson, this compound is typically used in residential swimming pools. One drawback with using such a compound is that over time the hypochlorous acid becomes depleted (but the cyanuric acid remains) and additional compound must be added. Therefore, cyanuric acid builds-up and over time blocks the chlorine so that the chlorine becomes less and less effective as additional compound is added, which is commonly referred to as "cyanuric acid block." When chlorine is "blocked," the swimming pool becomes unhealthy because the chlorine is no longer effective as a sanitizer. Further, this compound is typically not used in commercial swimming pools because when the cyanuric acid level exceeds 100 ppm, regulations require that the pool be drained and refilled, which can be time-consuming and expensive. Because commercial swimming pools have a higher volume of users thereby depleting and requiring more sanitizing compound than residential swimming pools to maintain healthy conditions, cyanuric acid would build up much more quickly if dichloroisocyanurate were used.

Several states, including New York and Kentucky, do not allow the use of dichloroisocyanurate in commercial swimming pools. Therefore, a sanitizer (chlorine) and a stabilizer (cyanuric acid) are typically used independently in commercial swimming pools to prevent this problem from occurring. Typically, the sanitizer is dispensed into the swimming pool water with a feeder and the stabilizer is broadcast on the surface of the swimming pool water as needed. This allows the depleted sanitizer to be readily replenished without adding additional cyanuric acid, which would eventually "block" the sanitizer.

The present invention allows the operator to maintain separate levels of sanitizer and stabilizer. In other words, the independent application of each, as in the present invention, helps prevent the sanitizer from becoming blocked.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. As recited in the claims, the present invention is a cyanuric acid dispenser, not a dispenser for a form of chlorine having a cyanuric acid byproduct. Cyanuric acid, sodium/calcium hypochlorite (chlorine), and dichloroisocyanurate/trichloroisocyanurate are different compounds even though the latter includes forms of the former two compounds. Simply substituting one of these compounds for another compound would not suffice for dispensing the compound using the dispenser of Nelli el al., Watson, or the present invention. All the claim limitations must be taught or suggested by the prior art, and because using cyanuric acid alone is neither taught nor suggested, the present invention is not obvious.

References are not properly combinable or modifiable if their intended function is destroyed. Generally, it is taboo in the industry to mix different chemicals. In this regard, every dispenser includes a warning label specifying the type of chemical that should be used exclusively with the dispenser. Doors to rooms containing various types of chemicals must also have warning labels. Further in this regard, if cyanuric acid is placed in a hypochlorite (chlorine) dispenser, an explosion would occur in the dispenser. In addition, NSF Certification, under a voluntary standard (NSF/ANSI Standard 50), is valid for specific chemicals in specific amounts only. To become certified, a product must undergo repeatability tests and material compatibility tests. If a different chemical and/or a different amount than certified is used, this would negate the NSF Certification. Therefore, it would not be obvious to one skilled in the art to place cyanuric acid in the type of dispenser disclosed in Nelli et al. Further, neither Nelli et al. nor Watson teach or suggest using cyanuric acid in a dispenser.

In addition, it is also not obvious to one skilled in the art because cyanuric acid is not available for purchase in such a permeable bag as in the present invention, in particular claims 19 and 22. Applicants determined the appropriate material and mesh for the permeable bag to get the desired dispensing rate of the cyanuric acid within the feeder. Rather than measuring the amount of cyanuric acid to be placed within the feeder, the empty permeable bag is replaced with a new permeable bag containing the desired amount of cyanuric acid within the feeder. A high degree of knowledge and expertise is required to maintain the appropriate level of cyanuric acid in a commercial swimming pool, and the present invention allows untrained personnel to maintain these levels. Therefore, the present invention is not well known by those skilled in the art.

Further, a reasonable expectation of success is required. If cyanuric acid is measured and placed into the dispenser disclosed in Nelli et al., the correct dispensing rate of cyanuric acid will not be achieved. If the mesh of the permeable bag is too large, the cyanuric acid will clump together and clog the dispenser. If the mesh of the permeable bag is too small, the cyanuric acid will not be properly dissolved and dispensed from the dispenser. If too little or too much cyanuric acid is dispensed into the pool, it will negatively affect the sanitation conditions of the pool water.

The prior art does not teach the problem or its source. Typically cyanuric acid is broadcast over the surface of the swimming pool water when the swimming pool is not in use. However, cyanuric acid would be most beneficial to stabilize the chlorine during use of the swimming pool, which is achieved with the present invention. With the present invention, cyanuric acid is dispensed in addition to chlorine in an additional dispenser, not within the same dispenser or in lieu of the chlorine dispenser. It is not simply placing cyanuric acid within an existing chlorine dispenser.

The proposed combination cannot change the principle of operation of the prior art references. The prior art references teach dispensing sanitizing compounds into swimming pools

and cyanuric acid is not a sanitizing compound. Rather, cyanuric acid is a stabilizer for use with a sanitizing compound. Nelli et al. neither discloses nor suggests using cyanuric acid with the dispensing device.

Even if it were obvious to combine the two cited references, the combined references do not result in the present invention. Placing the compound of Watson, dichloroisocyanurate, in the dispenser of Nelli et al. would not result in the present invention. The present invention dispenses a desired amount of cyanuric acid into a swimming pool to stabilize the chlorine in the swimming pool. Again, cyanuric acid is dispensed in addition to chlorine in an independent dispenser, not within the same dispenser or in lieu of the chlorine dispenser. It is not simply placing cyanuric acid within an existing chlorine dispenser, and the permeable bag includes a mesh specific to cyanuric acid so that the desired amount of cyanuric acid is dispensed. It is important to dispense an appropriate amount of cyanuric acid into the swimming pool to stabilize the chlorine without "blocking" the chlorine. Therefore, the present invention is not obvious in view of these references.

Favorable consideration of this Amendment is respectfully requested. The Examiner is welcome to contact the undersigned representative for the Applicants should the Examiner wish to discuss this matter.

Respectfully submitted,

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